GenCore version 4.5

OM protein - protein search, using sw model

Run on: March 6, 2002, 13:34:59 ; Search time 25.15 Seconds
(without alignments)
1902.638 Million cell updates/sec

Title: US-09-405-504A-25
Perfect score: 3372
Sequence: 1 MRAPGAGAASVVSLALLWLL.....HYLPLNEAVYTRICSGAFAL 646

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 522463 seqs, 74073290 residues

Total number of hits satisfying chosen parameters: 522463

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_1101:*
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2: /SIDS8/gcgdata/geneseq/geneseqp/AA1981.DAT:*
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22: /SIDS8/gcgdata/geneseq/geneseqp/AA2001.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	3372	100.0	646	20	AAY14942	Amino acid sequenc
2	3372	100.0	646	20	AAY14946	Amino acid sequenc
3	3372	100.0	646	22	AAB83232	Human FATP1 SEQ ID
4	3372	100.0	646	22	AAB83234	Human FATP1 SEQ ID
5	3372	100.0	646	22	AAB83239	Human FATP1 SEQ ID
6	3372	100.0	646	22	AAB83246	Human FATP1 SEQ ID
7	3367	99.9	646	20	AAY40435	Human FATP protein
8	3360	99.6	646	20	AAY40436	Human FATP1 protei
9	3280	97.3	630	22	AAB83244	Human FATP1 SEQ ID
10	3062	90.8	646	20	AAY14952	Amino acid sequenc
11	3057	90.7	646	22	AAB83269	Murine FATP1 SEQ I
12	3054	90.6	646	22	AAB83235	Murine FATP1 SEQ I
13	3026.5	89.8	647	20	AAY14955	Amino acid sequenc
14	3026.5	89.8	647	22	AAB83255	Murine FATP1 SEQ I
15	2970	88.1	630	22	AAB83252	Rat FATP1 SEQ ID N
16	2119	62.8	643	20	AAY14943	Amino acid sequenc
17	2119	62.8	643	20	AAY14949	Amino acid sequenc
18	2119	62.8	643	22	AAB83233	Human FATP4 SEQ ID
19	2119	62.8	643	22	AAB83242	Human FATP4 SEQ ID
20	2119	62.8	643	22	AAB83249	Human FATP4 SEQ ID
21	2114.5	62.7	632	22	AAB83236	Human FATP4 SEQ ID
22	2114.5	62.7	632	22	AAB83240	Human FATP4 SEQ ID
23	2076	61.6	643	22	AAB83243	Murine FATP4 SEQ I
24	2074.5	61.5	643	20	AAY14945	Amino acid sequenc
25	2074.5	61.5	643	20	AAY14958	Amino acid sequenc
26	2071.5	61.4	643	22	AAB83258	Murine FATP4 SEQ I
27	2070.5	61.4	632	22	AAB83237	Murine FATP4 SEQ I
28	2041.5	60.5	627	22	AAB83245	Murine FATP4 SEQ I
29	1920.5	57.0	616	21	AAB42756	Human ORFX ORF2520
30	1825.5	54.1	511	21	AAY71058	Human membrane tra
31	1814.5	53.8	511	22	AAB94242	Human protein sequ
32	1719.5	51.0	506	20	AAY14934	Amino acid sequenc
33	1719.5	51.0	506	22	AAB83224	Murine FATP4 SEQ I
34	1719.5	51.0	506	22	AAB83272	Murine FATP4 SEQ I
35	1547	45.9	405	20	AAY14954	Amino acid sequenc
36	1547	45.9	405	22	AAB83254	Rat FATP4 partial
37	1437.5	42.6	340	22	AAB83218	Murine FATP1 signa
38	1357	40.2	590	20	AAY14960	Partial amino acid
39	1357	40.2	590	22	AAB83260	Drosophila FATP pa
40	1267.5	37.6	650	20	AAY14962	Amino acid sequenc
41	1267.5	37.6	650	22	AAB83262	C elegans FATPa SE
42	1267.5	37.6	650	22	AAB83274	C elegans FATPa SE
43	1257.5	37.3	655	22	AAB83263	C elegans FATPb SE
44	1234	36.6	304	22	AAB83277	FATP signature seq
45	1094.5	32.5	615	20	AAY14963	Amino acid sequenc

ALIGNMENTS

RESULT 1
AAY14942
ID AAY14942 standard; Protein; 646 AA.
XX
AC AAY14942;
XX
DT 31-MAY-2000 (first entry)
XX
DE Amino acid sequence of human hFATP1.
XX
KW Fatty acid transport protein; FATP; long chain fatty acid; LCFA;
KW fatty acid; FATP biosynthesis; obesity; diabetes; heart disease.
XX
OS Homo sapiens.
XX
PN WO9936537-A2.
XX
PD 22-JUL-1999.
XX
PF 14-JAN-1999; 99WO-US00182.
XX
PR 14-JAN-1999; 99US-0232201.
PR 15-JAN-1998; 98US-0071374.
PR 20-JUL-1998; 98US-0093491.
PR 04-DEC-1998; 98US-0110941.
PR 14-JAN-1999; 99US-0232195.
PR 14-JAN-1999; 99US-0232197.
PR 14-JAN-1999; 99US-0232200.
XX
PA (MILL-) MILLENNIUM PHARM INC.
PA (WHED) WHITEHEAD INST BIOMEDICAL RES.
XX
PI Gimeno RE, Hirsch DJ, Lodish HF, Stahl A, Tartaglia LA;
XX

```
DR   WPI; 1999-444398/37.
DR   N-PSDB; AAZ00352.
XX
PT   Fatty acid transport proteins and related polynucleotides, useful
PT   for treating obesity, diabetes and heart disease
XX
PS   Examples; Fig 26; 255pp; English.
XX
CC   The invention provides a family of fatty acid transport proteins (FATPs)
CC   that mediate transport of long chain fatty acids (LCFAs) across cell
CC   membranes into cells. Human and murine FATP proteins and nucleic acids
CC   encoding the proteins are provided. The FATP proteins can be produced
CC   by standard recombinant methodology. Fatty acid uptake by cells can be
CC   modulated by modulating biosynthesis of FATP proteins especially FATP6.
CC   In particular, antisense oligonucleotides can be used to modulate FATP
CC   biosynthesis. Modulation of FATP6 is useful for inhibiting fatty acid
CC   uptake in cardiac muscle of humans. Agents can be directed to cardiac
CC   muscle or liver by administration of a complex of the agent and a FATP6
CC   binding moiety. DNA encoding FATP proteins can be used as a reference
CC   used in detecting variant alleles or homologues. Altering the LCFA uptake
CC   by administering an inhibitor or enhancer of FATP transport function in
CC   the small intestine can decrease or increase calories available as fats,
CC   and can decrease or increase circulating fatty acids. Blocking the
CC   function of FATP4 and also FATP2, is useful for treating obesity,
CC   diabetes and heart disease.
XX
SQ   Sequence   646 AA;


  Query Match             100.0%;  Score 3372;  DB 20;  Length 646;
  Best Local Similarity   100.0%;  Pred. No. 0;
  Matches  646;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
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Qy     61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
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Qy    241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
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Db    241 ddrlfyiytsgttglpkaaivvhsryyrmaafghhayrmqaadvlydclplyhsagniig 300

Qy    301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    301 vgqcliygltvvlrkkfsasrfwddcikynctvvqyigeicryllkqpvreaerrhrvrl 360

Qy    361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
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Qy    421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
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Db    601 ktrlqregfdprqtsdrlffldlkqghylplneavytricsgafal 646


RESULT   2
AAY14946
ID   AAY14946 standard; protein; 646 AA.
XX
AC   AAY14946;
XX
DT   26-OCT-1999  (first entry)
XX
DE   Amino acid sequence of human hsFATP1.
XX
KW   Fatty acid transport protein; FATP; long chain fatty acid; LCFA; human;
KW   fatty acid; FATP biosynthesis; obesity; diabetes; heart disease.
XX
OS   Homo sapiens.
XX
PN   WO9936537-A2.
XX
PD   22-JUL-1999.
XX
PF   14-JAN-1999;   99WO-US00182.
XX
PR   14-JAN-1999;   99US-0232201.
PR   15-JAN-1998;   98US-0071374.
PR   20-JUL-1998;   98US-0093491.
PR   04-DEC-1998;   98US-0110941.
PR   14-JAN-1999;   99US-0232195.
PR   14-JAN-1999;   99US-0232197.
PR   14-JAN-1999;   99US-0232200.
XX
PA   (MILL-) MILLENNIUM PHARM INC.
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
XX
PI   Gimeno RE,  Hirsch DJ,  Lodish HF,  Stahl A,  Tartaglia LA;
XX
DR   WPI; 1999-444398/37.
DR   N-PSDB; AAZ00356.
XX
PT   Fatty acid transport proteins and related polynucleotides, useful
PT   for treating obesity, diabetes and heart disease
XX
PS   Claim 30; Fig 45; 255pp; English.
XX
CC   The invention provides a family of fatty acid transport proteins (FATPs)
CC   that mediate transport of long chain fatty acids (LCFAs) across cell
CC   membranes into cells. Human and murine FATP proteins and nucleic acids
CC   encoding the proteins are provided. The FATP proteins can be produced
CC   by standard recombinant methodology. Fatty acid uptake by cells can be
CC   modulated by modulating biosynthesis of FATP proteins especially FATP6.
CC   In particular, antisense oligonucleotides can be used to modulate FATP
CC   biosynthesis. Modulation of FATP6 is useful for inhibiting fatty acid
CC   uptake in cardiac muscle of humans. Agents can be directed to cardiac
CC   muscle or liver by administration of a complex of the agent and a FATP6
CC   binding moiety. DNA encoding FATP proteins can be used as a reference
CC   used in detecting variant alleles or homologues. Altering the LCFA uptake
CC   by administering an inhibitor or enhancer of FATP transport function in
CC   the small intestine can decrease or increase calories available as fats,
CC   and can decrease or increase circulating fatty acids. Blocking the
CC   function of FATP4 and also FATP2, is useful for treating obesity,
CC   diabetes and heart disease.
XX
SQ   Sequence   646 AA;


  Query Match             100.0%;  Score 3372;  DB 20;  Length 646;
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  Matches  646;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Qy     361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     361 avgnglrpaiweefterfgvrqigefygatecncsianmdgkvgscgfnsrilphvypir 420

Qy     421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
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Qy     601 KTRLQREGFDPRQTSDRLFFLDLKQGHYLPLNEAVYTRICSGAFAL 646
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Db     601 ktrlqregfdprqtsdrlffldlkqghylplneavytricsgafal 646


RESULT   3
AAB83232
ID   AAB83232 standard; Protein; 646 AA.
XX
AC   AAB83232;
XX
DT   06-JUL-2001  (first entry)
XX
DE   Human FATP1 SEQ ID NO: 25.
XX
KW   Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
KW   yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
KW   weight control; tuberculosis; TB; anti-fungal.
XX
OS   Homo sapiens.
XX
PN   WO200121795-A2.
XX
PD   29-MAR-2001.
XX
PF   21-SEP-2000; 2000WO-US25891.
XX
PR   23-SEP-1999;   99US-0405504.
PR   23-SEP-1999;   99US-0405505.
PR   16-DEC-1999;   99US-0465280.
PR   17-FEB-2000; 2000US-0506252.
PR   06-JUL-2000; 2000US-0611197.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (MILL-) MILLENNIUM PHARM INC.
XX
PI   Stahl A,  Hirsch DJ,  Lodish HF,  Gimeno RE,  Tartaglia LA;
XX
DR   WPI; 2001-354783/37.
DR   N-PSDB; AAF89010.
XX
PT   New fatty acid transport proteins (FATPs) useful for the manufacture of
PT   medicament for treating obesity, diabetes and heart disease -
XX
PS   Disclosure; Fig 26; 287pp; English.
XX
CC   The present invention provides the protein and coding sequences of fatty
CC   acid transport proteins (FATPs) from a number of species, including
CC   FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
CC   from the mouse, FATPa and b from C. elegans, and FATP from Aspergillus
CC   nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
CC   tuberculosis and Cochliobolus heterostrophus. The FATP from M.
CC   tuberculosis can be used to identify inhibitors which can then be used to
CC   treat TB. That from M. grisea (also known as rice blast fungus) can be
CC   used to develop anti-fungal agents capable of preventing infection of
CC   rice. Those from the human can be used to develop treatments for
CC   diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
CC   present sequence is one of the sequences described in the exemplification
CC   of the invention.
XX
SQ   Sequence   646 AA;


  Query Match             100.0%;  Score 3372;  DB 22;  Length 646;
  Best Local Similarity   100.0%;  Pred. No. 0;
  Matches  646;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1 mrapgagaasvvslallwllglpwtwsaaaalgvyvgsggwrflrivcktarrdlfglsv 60

Qy      61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      61 lirvrlelrrhqraghtiprifqavvqrqperlalvdagtgecwtfaqldaysnavanlf 120

Qy     121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEAALLNVNLRREPLAFCLGTSGAKALI 180
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     121 rqlgfapgdvvaiflegrpefvglwlglakagmeaallnvnlrreplafclgtsgakali 180

Qy     181 FGGEMVAAVAEVSGHLGKSLIKFCSGDLGPEGILPDTHLLDPLLKEASTAPLAQIPSKGM 240
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     181 fggemvaavaevsghlgkslikfcsgdlgpegilpdthlldpllkeastaplaqipskgm 240

Qy     241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
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Db     241 ddrlfyiytsgttglpkaaivvhsryyrmaafghhayrmqaadvlydclplyhsagniig 300

Qy     301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
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Db     301 vgqcliygltvvlrkkfsasrfwddcikynctvvqyigeicryllkqpvreaerrhrvrl 360

Qy     361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
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Qy     421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     421 lvkvnedtmellrdaqglcipcqagepgllvgqinqqdplrrfdgyvsesatskkiahsv 480

Qy     481 FSKGDSAYLSGDVLVMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLSRLLGQTDVAVY 540
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     481 fskgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvsttevegvlsrllgqtdvavy 540

Qy     541 GVAVPGVEGKAGMAAVADPHSLLDPNAIYQELQKVLAPYARPIFLRLLPQVDTTGTFKIQ 600
                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     541 gvavpgvegkagmaavadphslldpnaiyqelqkvlapyarpiflrllpqvdttgtfkiq 600
```

```
Qy    601 KTRLQREGFDPRQTSDRLFFLDLKQGHYLPLNEAVYTRICSGAFAL 646
          ||||||||||||||||||||||||||||||||||||||||||||||||
Db    601 ktrlqregfdprqtsdrlffldlkqghylplneavytricsgafal 646


RESULT   4
AAB83234
ID   AAB83234 standard; Protein; 646 AA.
XX
AC   AAB83234;
XX
DT   06-JUL-2001  (first entry)
XX
DE   Human FATP1 SEQ ID NO: 32.
XX
KW   Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
KW   yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
KW   weight control; tuberculosis; TB; anti-fungal.
XX
OS   Homo sapiens.
XX
PN   WO200121795-A2.
XX
PD   29-MAR-2001.
XX
PF   21-SEP-2000; 2000WO-US25891.
XX
PR   23-SEP-1999;   99US-0405504.
PR   23-SEP-1999;   99US-0405505.
PR   16-DEC-1999;   99US-0465280.
PR   17-FEB-2000; 2000US-0506252.
PR   06-JUL-2000; 2000US-0611197.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (MILL-) MILLENNIUM PHARM INC.
XX
PI   Stahl A,  Hirsch DJ,  Lodish HF,  Gimeno RE,  Tartaglia LA;
XX
DR   WPI; 2001-354783/37.
XX
PT   New fatty acid transport proteins (FATPs) useful for the manufacture of
PT   medicament for treating obesity, diabetes and heart disease -
XX
PS   Disclosure; Fig 32; 287pp; English.
XX
CC   The present invention provides the protein and coding sequences of fatty
CC   acid transport proteins (FATPs) from a number of species, including
CC   FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
CC   from the mouse, FATPa and b from C. elegans, and FATP from Aspergillus
CC   nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
CC   tuberculosis and Cochliobolus heterostrophus. The FATP from M.
CC   tuberculosis can be used to identify inhibitors which can then be used to
CC   treat TB. That from M. grisea (also known as rice blast fungus) can be
CC   used to develop anti-fungal agents capable of preventing infection of
CC   rice. Those from the human can be used to develop treatments for
CC   diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
CC   present sequence is one of the sequences described in the exemplification
CC   of the invention.
XX
SQ   Sequence   646 AA;


  Query Match             100.0%;  Score 3372;  DB 22;  Length 646;
  Best Local Similarity   100.0%;  Pred. No. 0;
  Matches  646;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      1 mrapgagaasvvslallwllglpwtwsaaaalgvyvgsggwrflrivcktarrdlfglsv 60

Qy     61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     61 lirvrlelrrhqraghtiprifqavvqrqperlalvdagtgecwtfaqldaysnavanlf 120

Qy    121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEAALLNVNLRREPLAFCLGTSGAKALI 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    121 rqlgfapgdvvaiflegrpefvglwlglakagmeaallnvnlrreplafclgtsgakali 180

Qy    181 FGGEMVAAVAEVSGHLGKSLIKFCSGDLGPEGILPDTHLLDPLLKEASTAPLAQIPSKGM 240
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    181 fggemvaavaevsghlgkslikfcsgdlgpegilpdthlldpllkeastaplaqipskgm 240

Qy    241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    241 ddrlfyiytsgttglpkaaivvhsryyrmaafghhayrmqaadvlydclplyhsagniig 300

Qy    301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    301 vgqcliygltvvlrkkfsasrfwddcikynctvvqyigeicryllkqpvreaerrhrvrl 360

Qy    361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    361 avgnglrpaiweefterfgvrqigefygatecncsianmdgkvgscgfnsrilphvypir 420

Qy    421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    421 lvkvnedtmellrdaqglcipcqagepgllvgqinqqdplrrfdgyvsesatskkiahsv 480

Qy    481 FSKGDSAYLSGDVLVMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLSRLLGQTDVAVY 540
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    481 fskgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvsttevegvlsrllgqtdvavy 540

Qy    541 GVAVPGVEGKAGMAAVADPHSLLDPNAIYQELQKVLAPYARPIFLRLLPQVDTTGTFKIQ 600
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    541 gvavpgvegkagmaavadphslldpnaiyqelqkvlapyarpiflrllpqvdttgtfkiq 600

Qy    601 KTRLQREGFDPRQTSDRLFFLDLKQGHYLPLNEAVYTRICSGAFAL 646
          ||||||||||||||||||||||||||||||||||||||||||||||
Db    601 ktrlqregfdprqtsdrlffldlkqghylplneavytricsgafal 646


RESULT   5
AAB83239
ID   AAB83239 standard; Protein; 646 AA.
XX
AC   AAB83239;
XX
DT   06-JUL-2001  (first entry)
XX
DE   Human FATP1 SEQ ID NO: 38.
XX
KW   Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
KW   yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
KW   weight control; tuberculosis; TB; anti-fungal.
XX
OS   Homo sapiens.
XX
PN   WO200121795-A2.
XX
PD   29-MAR-2001.
XX
PF   21-SEP-2000; 2000WO-US25891.
XX
PR   23-SEP-1999;   99US-0405504.
PR   23-SEP-1999;   99US-0405505.
PR   16-DEC-1999;   99US-0465280.
PR   17-FEB-2000; 2000US-0506252.
PR   06-JUL-2000; 2000US-0611197.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (MILL-) MILLENNIUM PHARM INC.
XX
PI   Stahl A,  Hirsch DJ,  Lodish HF,  Gimeno RE,  Tartaglia LA;
XX
DR   WPI; 2001-354783/37.
XX
```

PT New fatty acid transport proteins (FATPs) useful for the manufacture of
PT medicament for treating obesity, diabetes and heart disease -
XX
PS Disclosure; Fig 36; 287pp; English.
XX
CC The present invention provides the protein and coding sequences of fatty
CC acid transport proteins (FATPs) from a number of species, including
CC FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
CC from the mouse, FATPa and b from C. elegans, and FATP from Aspergillus
CC nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
CC tuberculosis and Cochliobolus heterostrophus. The FATP from M.
CC tuberculosis can be used to identify inhibitors which can then be used to
CC treat TB. That from M. grisea (also known as rice blast fungus) can be
CC used to develop anti-fungal agents capable of preventing infection of
CC rice. Those from the human can be used to develop treatments for
CC diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
CC present sequence is one of the sequences described in the exemplification
CC of the invention.
XX
SQ Sequence 646 AA;

Query Match 100.0%; Score 3372; DB 22; Length 646;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 646; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      1 mrapgagaasvvslallwllglpwtwsaaaalgvyvgsggwrflrivcktarrdlfglsv 60

Qy     61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     61 lirvrlelrrhqraghtiprifqavvqrqperlalvdagtgecwtfaqldaysnavanlf 120

Qy    121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEAALLNVNLRREPLAFCLGTSGAKALI 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    121 rqlgfapgdvvaiflegrpefvglwlglakagmeaallnvnlrreplafclgtsgakali 180

Qy    181 FGGEMVAAVAEVSGHLGKSLIKFCSGDLGPEGILPDTHLLDPLLKEASTAPLAQIPSKGM 240
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    181 fggemvaavaevsghlgkslikfcsgdlgpegilpdthlldpllkeastaplaqipskgm 240

Qy    241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    241 ddrlfyiytsgttglpkaaivvhsryyrmaafghhayrmqaadvlydclplyhsagniig 300

Qy    301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    301 vgqcliygltvvlrkkfsasrfwddcikynctvvqyigeicryllkqpvreaerrhrvrl 360

Qy    361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    361 avgnglrpaiweefterfgvrqigefygatecncsianmdgkvgscgfnsrilphvypir 420

Qy    421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    421 lvkvnedtmellrdaqglcipcqagepgllvgqinqqdplrrfdgyvsesatskkiahsv 480

Qy    481 FSKGDSAYLSGDVLVMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLSRLLGQTDVAVY 540
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    481 fskgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvsttevegvlsrllgqtdvavy 540

Qy    541 GVAVPGVEGKAGMAAVADPHSLLDPNAIYQELQKVLAPYARPIFLRLLPQVDTTGTFKIQ 600
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    541 gvavpgvegkagmaavadphslldpnaiyqelqkvlapyarpiflrllpqvdttgtfkiq 600

Qy    601 KTRLQREGFDPRQTSDRLFFLDLKQGHYLPLNEAVYTRICSGAFAL 646
          |||||||||||||||||||||||||||||||||||||||||||||
Db    601 ktrlqregfdprqtsdrlffldlkqghylplneavytricsgafal 646
```

RESULT 6
AAB83246

ID AAB83246 standard; Protein; 646 AA.
XX
AC AAB83246;
XX
DT 06-JUL-2001 (first entry)
XX
DE Human FATP1 SEQ ID NO: 47.
XX
KW Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
KW yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
KW weight control; tuberculosis; TB; anti-fungal.
XX
OS Homo sapiens.
XX
PN WO200121795-A2.
XX
PD 29-MAR-2001.
XX
PF 21-SEP-2000; 2000WO-US25891.
XX
PR 23-SEP-1999; 99US-0405504.
PR 23-SEP-1999; 99US-0405505.
PR 16-DEC-1999; 99US-0465280.
PR 17-FEB-2000; 2000US-0506252.
PR 06-JUL-2000; 2000US-0611197.
XX
PA (WHED) WHITEHEAD INST BIOMEDICAL RES.
PA (MILL-) MILLENNIUM PHARM INC.
XX
PI Stahl A, Hirsch DJ, Lodish HF, Gimeno RE, Tartaglia LA;
XX
DR WPI; 2001-354783/37.
DR N-PSDB; AAF89018.
XX
PT New fatty acid transport proteins (FATPs) useful for the manufacture of
PT medicament for treating obesity, diabetes and heart disease -
XX
PS Claim 79; Fig 45; 287pp; English.
XX
CC The present invention provides the protein and coding sequences of fatty
CC acid transport proteins (FATPs) from a number of species, including
CC FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
CC from the mouse, FATPa and b from C. elegans, and FATP from Aspergillus
CC nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
CC tuberculosis and Cochliobolus heterostrophus. The FATP from M.
CC tuberculosis can be used to identify inhibitors which can then be used to
CC treat TB. That from M. grisea (also known as rice blast fungus) can be
CC used to develop anti-fungal agents capable of preventing infection of
CC rice. Those from the human can be used to develop treatments for
CC diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
CC present sequence is one of the sequences described in the exemplification
CC of the invention.
XX
SQ Sequence 646 AA;

Query Match 100.0%; Score 3372; DB 22; Length 646;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 646; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      1 mrapgagaasvvslallwllglpwtwsaaaalgvyvgsggwrflrivcktarrdlfglsv 60

Qy     61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     61 lirvrlelrrhqraghtiprifqavvqrqperlalvdagtgecwtfaqldaysnavanlf 120

Qy    121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEAALLNVNLRREPLAFCLGTSGAKALI 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    121 rqlgfapgdvvaiflegrpefvglwlglakagmeaallnvnlrreplafclgtsgakali 180

Qy    181 FGGEMVAAVAEVSGHLGKSLIKFCSGDLGPEGILPDTHLLDPLLKEASTAPLAQIPSKGM 240
```

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                 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     181 fggemvaavaevsghlgkslikfcsgdlgpegilpdthlldpllkeastaplaqipskgm 240

Qy     241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     241 ddrlfyiytsgttglpkaaivvhsryyrmaafghhayrmqaadvlydclplyhsagniig 300

Qy     301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     301 vgqcliygltvvlrkkfsasrfwddcikynctvvqyigeicryllkqpvreaerrhrvrl 360

Qy     361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     361 avgnglrpaiweefterfgvrqigefygatecncsianmdgkvgscgfnsrilphvypir 420

Qy     421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     421 lvkvnedtmellrdaqglcipcqagepgllvgqinqqdplrrfdgyvsesatskkiahsv 480

Qy     481 FSKGDSAYLSGDVLVMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLSRLLGQTDVAVY 540
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     481 fskgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvsttevegvlsrllgqtdvavy 540

Qy     541 GVAVPGVEGKAGMAAVADPHSLLDPNAIYQELQKVLAPYARPIFLRLLPQVDTTGTFKIQ 600
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     541 gvavpgvegkagmaavadphslldpnaiyqelqkvlapyarpiflrllpqvdttgtfkiq 600

Qy     601 KTRLQREGFDPRQTSDRLFFLDLKQGHYLPLNEAVYTRICSGAFAL 646
           |||||||||||||||||||||||||||||||||||||||||||||
Db     601 ktrlqregfdprqtsdrlffldlkqghylplneavytricsgafal 646


RESULT   7
AAY40435
ID   AAY40435 standard; Protein; 646 AA.
XX
AC   AAY40435;
XX
DT   08-FEB-2000  (first entry)
XX
DE   Human FATP protein sequence.
XX
KW   Fatty acid transport protein; FATP; hFATP; cardiomyopathy; diabetes;
KW   long-chain fatty acid metabolism; obesity; human.
XX
OS   Homo sapiens.
XX
PN   WO9951740-A2.
XX
PD   14-OCT-1999.
XX
PF   02-APR-1999;   99WO-EP02295.
XX
PR   06-APR-1998;   98EP-0400823.
XX
PA   (JANC ) JANSSEN PHARM NV.
PA   (UNIW ) UNIV WASHINGTON.
XX
PI   Martin G,  Nemoto M,  Deeb SS,  Auwerx J;
XX
DR   WPI; 1999-620202/53.
DR   N-PSDB; AAZ38122, AAZ38125.
XX
PT   New human fatty acid transport protein, hFATP, useful to screen for
PT   inhibitors or enhancers useful to regulate fatty acid metabolism  -
XX
PS   Claim 1; Fig 5; 83pp; English.
XX
CC   The invention provides a human fatty acid transport protein (hFATP).
CC   hFATP is believed to be involved in the modulation long-chain fatty acid
CC   metabolism; the protein and polynucleotides therefore enable production
CC   of compositions comprising a component regulating (inhibiting or
CC   enhancing) expression of the hFATP gene useful therapeutically to alter
CC   intracellular or blood levels of long chain fatty acids. Such compounds
CC   are especially useful to treat conditions associated with deficient
CC   regulation (e.g. may comprise an inhibitor to treat cardiomyopathies or
CC   diabetes or an enhancer to treat obesity. The polynucleotides are also
CC   useful to screen compounds for their effects on hFATP expression, e.g.
CC   by measuring mRNA transcription in cells/cell extracts (e.g. liver
CC   cells) contacted with the compound and comparing with that in non-
CC   contacted cells. The present sequence represents the hFATP protein.
XX
SQ   Sequence   646 AA;


  Query Match             99.9%;  Score 3367;  DB 20;  Length 646;
  Best Local Similarity   99.8%;  Pred. No. 0;
  Matches  645;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1 mrapgagaasvvslallwllglpwtwsaaaalgvyvgsggwrflrivcktarrdlfglsv 60

Qy      61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      61 lirvrlelrrhqraghtiprifqavvqrqperlalvdagtgecwtfaqldaysnavanlf 120

Qy     121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEAALLNVNLRREPLAFCLGTSGAKALI 180
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     121 rqlgfapgdvvaiflegrpefvglwlglakagmeaallnvnlrreplafclgtsgakali 180

Qy     181 FGGEMVAAVAEVSGHLGKSLIKFCSGDLGPEGILPDTHLLDPLLKEASTAPLAQIPSKGM 240
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     181 fggemvaavaevsghlgkslikfcsgdlgpegilpdthlldpllkeastaplaqipskgm 240

Qy     241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     241 ddrlfyiytsgttglpkaaivvhsryyrmaafghhayrmqaadvlydclplyhsagniig 300

Qy     301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     301 vgqcliygltvvlrkkfsasrfwddcikynctvvqyigeicryllkqpvreaerrhrvrl 360

Qy     361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     361 avgnglrpaiweefterfgvrqigefygatecncsianmdgkvgscgfnsrilphvypir 420

Qy     421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     421 lvkvnedtmellrdaqglcipcqagepgllvgqinqqdplrrfdgyvsesatskkiahsv 480

Qy     481 FSKGDSAYLSGDVLVMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLSRLLGQTDVAVY 540
           |||||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||
Db     481 fskgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvsntevegvlsrllgqtdvavy 540

Qy     541 GVAVPGVEGKAGMAAVADPHSLLDPNAIYQELQKVLAPYARPIFLRLLPQVDTTGTFKIQ 600
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     541 gvavpgvegkagmaavadphslldpnaiyqelqkvlapyarpiflrllpqvdttgtfkiq 600

Qy     601 KTRLQREGFDPRQTSDRLFFLDLKQGHYLPLNEAVYTRICSGAFAL 646
           |||||||||||||||||||||||||||||||||||||||||||||
Db     601 ktrlqregfdprqtsdrlffldlkqghylplneavytricsgafal 646


RESULT   8
AAY40436
ID   AAY40436 standard; Protein; 646 AA.
XX
AC   AAY40436;
XX
DT   08-FEB-2000  (first entry)
XX
DE   Human FATP1 protein sequence.
XX
KW   Fatty acid transport protein; FATP; hFATP1; cardiomyopathy; diabetes;
KW   long-chain fatty acid metabolism; obesity; human.
```

```
XX
OS   Homo sapiens.
XX
PN   WO9951740-A2.
XX
PD   14-OCT-1999.
XX
PF   02-APR-1999;   99WO-EP02295.
XX
PR   06-APR-1998;   98EP-0400823.
XX
PA   (JANC ) JANSSEN PHARM NV.
PA   (UNIW ) UNIV WASHINGTON.
XX
PI   Martin G,  Nemoto M,  Deeb SS,  Auwerx J;
XX
DR   WPI; 1999-620202/53.
XX
PT   New human fatty acid transport protein, hFATP, useful to screen for
PT   inhibitors or enhancers useful to regulate fatty acid metabolism  -
XX
PS   Claim 1; Fig 2; 83pp; English.
XX
CC   The invention provides a human fatty acid transport protein (hFATP).
CC   hFATP is believed to be involved in the modulation long-chain fatty acid
CC   metabolism; the protein and polynucleotides therefore enable production
CC   of compositions comprising a component regulating (inhibiting or
CC   enhancing) expression of the hFATP gene useful therapeutically to alter
CC   intracellular or blood levels of long chain fatty acids. Such compounds
CC   are especially useful to treat conditions associated with deficient
CC   regulation (e.g. may comprise an inhibitor to treat cardiomyopathies or
CC   diabetes or an enhancer to treat obesity. The polynucleotides are also
CC   useful to screen compounds for their effects on hFATP expression, e.g.
CC   by measuring mRNA transcription in cells/cell extracts (e.g. liver
CC   cells) contacted with the compound and comparing with that in non-
CC   contacted cells. The present sequence represents the hFATP1 protein.
XX
SQ   Sequence   646 AA;

  Query Match             99.6%;  Score 3360;  DB 20;  Length 646;
  Best Local Similarity   99.7%;  Pred. No. 0;
  Matches  644;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1 mrapgagaasvvslallwllglpwtwsaaaalgvyvgsggwrflrivcktarrdlfglsv 60

Qy      61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
           ||||||||||||||:|||||||||||||||||||||||||||||||||||||||||||||
Db      61 lirvrlelrrhqragntiprifqavvqrqperlalvdagtgecwtfaqldaysnavanlf 120

Qy     121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEAALLNVNLRREPLAFCLGTGSGAKALI 180
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     121 rqlgfapgdvvaiflegrpefvglwlglakagmeaallnvnlrreplafclgtgsgakali 180

Qy     181 FGGEMVAAVAEVSGHLGKSLIKFCSGDLGPEGILPDTHLLDPLLKEASTAPLAQIPSKGM 240
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     181 fggemvaavaevsghlgkslikfcsgdlgpegilpdthlldpllkeastaplaqipskgm 240

Qy     241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     241 ddrlfyiytsgttglpkaaivvhsryyrmaafghhayrmqaadvlydclplyhsagniig 300

Qy     301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     301 vgqcliygltvvlrkkfsasrfwddcikynctvvqyigeicryllkqpvreaerrhrvrl 360

Qy     361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     361 avgnglrpaiweefterfgvrqigefygatecncsianmdgkvgscgfnsrilphvypir 420

Qy     421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     421 lvkvnedtmellrdagglcipcqagepgllvgqinqqdplrrfdgyvsesatskkiahsv 480

Qy     481 FSKGDSAYLSGDVLVMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLSRLLGQTDVAVY 540
           |||||||||||||||||||||||||||||||||||||| ||||||||||||||||||||||
Db     481 fskgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvsntevegvlsrllgqtdvavy 540

Qy     541 GVAVPGVEGKAGMAAVADPHSLLDPNAIYQELQKVLAPYARPIFLRLLPQVDTTGTFKIQ 600
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     541 gvavpgvegkagmaavadphslldpnaiyqelqkvlapyarpiflrllpqvdttgtfkiq 600

Qy     601 KTRLQREGFDPRQTSDRLFFLDLKQGHYLPLNEAVYTRICSGAFAL 646
           |||||||||||||||||||||||||||||||||||||||||||||||
Db     601 ktrlqregfdprqtsdrlffldlkqghylplneavytricsgafal 646


RESULT   9
AAB83244
ID   AAB83244 standard; Protein; 630 AA.
XX
AC   AAB83244;
XX
DT   06-JUL-2001  (first entry)
XX
DE   Human FATP1 SEQ ID NO: 43.
XX
KW   Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
KW   yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
KW   weight control; tuberculosis; TB; anti-fungal.
XX
OS   Homo sapiens.
XX
PN   WO200121795-A2.
XX
PD   29-MAR-2001.
XX
PF   21-SEP-2000; 2000WO-US25891.
XX
PR   23-SEP-1999;   99US-0405504.
PR   23-SEP-1999;   99US-0405505.
PR   16-DEC-1999;   99US-0465280.
PR   17-FEB-2000; 2000US-0506252.
PR   06-JUL-2000; 2000US-0611197.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (MILL-) MILLENNIUM PHARM INC.
XX
PI   Stahl A,  Hirsch DJ,  Lodish HF,  Gimeno RE,  Tartaglia LA;
XX
DR   WPI; 2001-354783/37.
XX
PT   New fatty acid transport proteins (FATPs) useful for the manufacture of
PT   medicament for treating obesity, diabetes and heart disease -
XX
PS   Disclosure; Fig 39; 287pp; English.
XX
CC   The present invention provides the protein and coding sequences of fatty
CC   acid transport proteins (FATPs) from a number of species, including
CC   FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
CC   from the mouse, FATPa and b from C. elegans, and FATP from Aspergillus
CC   nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
CC   tuberculosis and Cochliobolus heterostrophus. The FATP from M.
CC   tuberculosis can be used to identify inhibitors which can then be used to
CC   treat TB. That from M. grisea (also known as rice blast fungus) can be
CC   used to develop anti-fungal agents capable of preventing infection of
CC   rice. Those from the human can be used to develop treatments for
CC   diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
CC   present sequence is one of the sequences described in the exemplification
CC   of the invention.
XX
SQ   Sequence   630 AA;
```

```
  Query Match             97.3%;  Score 3280;  DB 22;  Length 630;
  Best Local Similarity   97.5%;  Pred. No. 0;
  Matches  630;  Conservative    0;  Mismatches    0;  Indels   16;  Gaps    1;

Qy       1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1 mrapgagaasvvslallwllglpwtwsaaaalgvyvgsggwrflrivcktarrdlfglsv 60

Qy      61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      61 lirvrlelrrhqraghtiprifqavvqrqperlalvdagtgecwtfaqldaysnavanlf 120

Qy     121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEAALLNVNLRREPLAFCLGTSGAKALI 180
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     121 rqlgfapgdvvaiflegrpefvglwlglakagmeaallnvnlrreplafclgtsga---- 176

Qy     181 FGGEMVAAVAEVSGHLGKSLIKFCSGDLGPEGILPDTHLLDPLLKEASTAPLAQIPSKGM 240
                   ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     177 -----------sghlgkslikfcsgdlgpegilpdthlldpllkeastaplaqipskgm 224

Qy     241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     225 ddrlfyiytsgttglpkaaivvhsryyrmaafghhayrmqaadvlydclplyhsagniig 284

Qy     301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     285 vgqcliygltvvlrkkfsasrfwddcikynctvvqyigeicryllkqpvreaerrhrvrl 344

Qy     361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     345 avgnglrpaiweefterfgvrqigefygatecncsianmdgkvgscgfnsrilphvypir 404

Qy     421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     405 lvkvnedtmellrdaqglcipcqagepgllvgqinqqdplrrfdgyvsesatskkiahsv 464

Qy     481 FSKGDSAYLSGDVLVMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLSRLLGQTDVAVY 540
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     465 fskgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvsttevegvlsrllgqtdvavy 524

Qy     541 GVAVPGVEGKAGMAAVADPHSLLDPNAIYQELQKVLAPYARPIFLRLLPQVDTTGTFKIQ 600
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     525 gvavpgvegkagmaavadphslldpnaiyqelqkvlapyarpiflrllpqvdttgtfkiq 584

Qy     601 KTRLQREGFDPRQTSDRLFFLDLKQGHYLPLNEAVYTRICSGAFAL 646
           |||||||||||||||||||||||||||||||||||||||||||||||
Db     585 ktrlqregfdprqtsdrlffldlkqghylplneavytricsgafal 630


RESULT  10
AAY14952
ID   AAY14952 standard; protein; 646 AA.
XX
AC   AAY14952;
XX
DT   26-OCT-1999  (first entry)
XX
DE   Amino acid sequence of rat rnFATP1.
XX
KW   Fatty acid transport protein; FATP; long chain fatty acid; LCFA;
KW   fatty acid; FATP biosynthesis; obesity; diabetes; heart disease.
XX
OS   Rattus norvegicus.
XX
PN   WO9936537-A2.
XX
PD   22-JUL-1999.
XX
PF   14-JAN-1999;   99WO-US00182.
XX
PR   14-JAN-1999;   99US-0232201.
PR   15-JAN-1998;   98US-0071374.
PR   20-JUL-1998;   98US-0093491.
PR   04-DEC-1998;   98US-0110941.
PR   14-JAN-1999;   99US-0232195.
PR   14-JAN-1999;   99US-0232197.
PR   14-JAN-1999;   99US-0232200.
XX
PA   (MILL-) MILLENNIUM PHARM INC.
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
XX
PI   Gimeno RE,  Hirsch DJ,  Lodish HF,  Stahl A,  Tartaglia LA;
XX
DR   WPI; 1999-444398/37.
DR   N-PSDB; AAZ00362.
XX
PT   Fatty acid transport proteins and related polynucleotides, useful
PT   for treating obesity, diabetes and heart disease
XX
PS   Disclosure; Fig 57; 255pp; English.
XX
CC   The invention provides a family of fatty acid transport proteins (FATPs)
CC   that mediate transport of long chain fatty acids (LCFAs) across cell
CC   membranes into cells. Human and murine FATP proteins and nucleic acids
CC   encoding the proteins are provided. The FATP proteins can be produced
CC   by standard recombinant methodology. Fatty acid uptake by cells can be
CC   modulated by modulating biosynthesis of FATP proteins especially FATP6.
CC   In particular, antisense oligonucleotides can be used to modulate FATP
CC   biosynthesis. Modulation of FATP6 is useful for inhibiting fatty acid
CC   uptake in cardiac muscle of humans. Agents can be directed to cardiac
CC   muscle or liver by administration of a complex of the agent and a FATP6
CC   binding moiety. DNA encoding FATP proteins can be used as a reference
CC   used in detecting variant alleles or homologues. Altering the LCFA uptake
CC   by administering an inhibitor or enhancer of FATP transport function in
CC   the small intestine can decrease or increase calories available as fats,
CC   and can decrease or increase circulating fatty acids. Blocking the
CC   function of FATP4 and also FATP2, is useful for treating obesity,
CC   diabetes and heart disease.
XX
SQ   Sequence   646 AA;

  Query Match             90.8%;  Score 3062;  DB 20;  Length 646;
  Best Local Similarity   89.5%;  Pred. No. 0;
  Matches  578;  Conservative   30;  Mismatches   38;  Indels    0;  Gaps    0;

Qy       1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
           || |||| ||| || |||||||||||||||| ||||||||||||||||||||||||||||||
Db       1 mrtpgagtasvaslgllwllglpwtwsaaaafgvyvgsggwrflrivcktarrdlfglsv 60

Qy      61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
           ||||||||||:||| |||||||| |||||||||| :| |||||||| ||||||||
Db      61 lirvrlelrrhrragdtiprifqavaqrqperlalvdassgicwtfaqldtysnavanlf 120

Qy     121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEAALLNVNLRREPLAFCLGTSGAKALI 180
           ||||||||||:|||||||||||||||: |||||||||||||||||||| |||||
Db     121 lqlgfapgdvvavflegrpefvglwlglakagvvaallnvnlrreplafclgtsaakali 180

Qy     181 FGGEMVAAVAEVSGHLGKSLIKFCSGDLGPEGILPDTHLLDPLLKEASTAPLAQIPSKGM 240
           :|||| |||||||  |||||:|||||||||| :|||| ||||:| || | |||| .| |||
Db     181 yggemaaavaevseqlgksllkfcsgdlgpesvlpdtqlldpmlaeapttplaqapgkgm 240

Qy     241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
           |||||||||||||||||||||||||||:||||||:| |:| |||||||||||||||:|
Db     241 ddrlfyiytsgttglpkaaivvhsryyriaafghhsysmrandvlydclplyhsagnimg 300

Qy     301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
           ||||:|||||||||||||||||||:|||||||||||||||||||:|||||: ||||||||
Db     301 vgqciiygltvvlrkkfsasrfwddcvkynctvvqyigeicryllrqpvrdverrhrvrl 360

Qy     361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
           ||||||||||||||: |||||||||||||||||||||||||||||||||||||||||||||
Db     361 avgnglrpaiweeftqgfgvrqigefygatecncsianmdgkvgscgfnsrilthvypir 420

Qy     421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
           |||||||||| |||:|||||||| |||||||||||||||||||||:|||:|||||||
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```
Db    421 lvkvnedtmeplrdsqglcipcqpgepgllvgqinqqdplrrfdgyvsdsatnkkiahsv 480

Qy    481 FSKGDSAYLSGDVLVMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLSRLLGQTDVAVY 540
          | ||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Db    481 frkgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvstteveavlsrllgqtdvavy 540

Qy    541 GVAVPGVEGKAGMAAVADPHSLLDPNAIYQELQKVLAPYARPIFLRLLPQVDTTGTFKIQ 600
          |||||||||||:||||:|||||: ||||::|||||||| ||:|||||||||||||||||||
Db    541 gvavpgvegksgmaaiadphnqldpnsmyqelqkvlasyaqpiflrllpqvdttgtfkiq 600

Qy    601 KTRLQREGFDPRQTSDRLFFLDLKQGHYLPLNEAVYTRICSGAFAL 646
          |||||||||||||||||||||||| ||||:| |: |||:| |:|
Db    601 ktrlqregfdprqtsdrlffldlkqgrylpldervharicagdfsl 646


RESULT 11
AAB83269
ID   AAB83269 standard; Protein; 646 AA.
XX
AC   AAB83269;
XX
DT   06-JUL-2001  (first entry)
XX
DE   Murine FATP1 SEQ ID NO: 92.
XX
KW   Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
KW   yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
KW   weight control; tuberculosis; TB; anti-fungal.
XX
OS   Mus musculus.
XX
PN   WO200121795-A2.
XX
PD   29-MAR-2001.
XX
PF   21-SEP-2000; 2000WO-US25891.
XX
PR   23-SEP-1999;   99US-0405504.
PR   23-SEP-1999;   99US-0405505.
PR   16-DEC-1999;   99US-0465280.
PR   17-FEB-2000; 2000US-0506252.
PR   06-JUL-2000; 2000US-0611197.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (MILL-) MILLENNIUM PHARM INC.
XX
PI   Stahl A,  Hirsch DJ,  Lodish HF,  Gimeno RE,  Tartaglia LA;
XX
DR   WPI; 2001-354783/37.
XX
PT   New fatty acid transport proteins (FATPs) useful for the manufacture of
PT   medicament for treating obesity, diabetes and heart disease -
XX
PS   Disclosure; Fig 1; 287pp; English.
XX
CC   The present invention provides the protein and coding sequences of fatty
CC   acid transport proteins (FATPs) from a number of species, including
CC   FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
CC   from the mouse, FATPa and b from C. elegans, and FATP from Aspergillus
CC   nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
CC   tuberculosis and Cochliobolus heterostrophus. The FATP from M.
CC   tuberculosis can be used to identify inhibitors which can then be used to
CC   treat TB. That from M. grisea (also known as rice blast fungus) can be
CC   used to develop anti-fungal agents capable of preventing infection of
CC   rice. Those from the human can be used to develop treatments for
CC   diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
CC   present sequence is one of the sequences described in the exemplification
CC   of the invention.
XX
SQ   Sequence   646 AA;

 Query Match             90.7%;  Score 3057;  DB 22;  Length 646;
```

```
 Best Local Similarity   89.6%;  Pred. No. 0;
 Matches  579;  Conservative   29;  Mismatches   38;  Indels    0;  Gaps    0;

Qy      1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
          ||||||| ||| |||||| |||||||||||  |||| ||||||||||||||||||||||
Db      1 mrapgagtasvaslallwflglpwtwsaaaafcvyvggggwrflrivcktarrdlfglsv 60

Qy     61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
          |||||||||||:||| ||| ||||| :|||||||||| :| |||||||| |||||||||
Db     61 lirvrlelrrhrragdtipcifqavarrqperlalvdassgicwtfaqldtysnavanlf 120

Qy    121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEAALLNVNLRREPLAFCLGTSGAKALI 180
          |||||||||||:|||||||||||||||||: |||||||||||||||||| |||||
Db    121 rqlgfapgdvvavflegrpefvglwlglakagvvaallnvnlrreplafclgtsaakali 180

Qy    181 FGGEMVAAVAEVSGHLGKSLIKFCSGDLGPEGILPDTHLLDPLLKEASTAPLAQIPSKGM 240
          :|||| |||||||  |||||:|||||||||| ||||| |||||| || | |||| | |||
Db    181 yggemaaavaevseqlgksllkfcsgdlgpesilpdtqlldpmlaeapttplaqapgkgm 240

Qy    241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
          |||||||||||||||||||||||||||:|||||||:| |:|||||||||||||||||:|
Db    241 ddrlfyiytsgttglpkaaivvhsryyriaafghhsysmraadvlydclplyhsagnimg 300

Qy    301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
          ||||:|||||||||||||||||||:|||||||||||||||||:|||| |:|||||
Db    301 vgqcviygltvvlrkkfsasrfwddcvkynctvvqyigeicryllrqpvrdveqrhrvrl 360

Qy    361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
          |||||||||||||:|||| ||||||||||||||||||||||||||||||| ||||||
Db    361 avgnglrpaiweeftqrfgvpqigefygatecncsianmdgkvgscgfnsrilthvypir 420

Qy    421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
          |||||||||| |||::||||||| ||||||||||||||||||||||:|||:|||||||
Db    421 lvkvnedtmeplrdseglcipcqpgepgllvgqinqqdplrrfdgyvsdsatnkkiahsv 480

Qy    481 FSKGDSAYLSGDVLVMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLSRLLGQTDVAVY 540
          | ||||||||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Db    481 frkgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvstteveavlsrllgqtdvavy 540

Qy    541 GVAVPGVEGKAGMAAVADPHSLLDPNAIYQELQKVLAPYARPIFLRLLPQVDTTGTFKIQ 600
          |||||||||||||:||||| ||||::|||||||| ||||||||||||||||||||||||
Db    541 gvavpgvegkagmaaiadphsqldpnsmyqelqkvlasyarpiflrllpqvdttgtfkiq 600

Qy    601 KTRLQREGFDPRQTSDRLFFLDLKQGHYLPLNEAVYTRICSGAFAL 646
          |||||||||||||||||||||||| ||||:| |: |||:| |:|
Db    601 ktrlqregfdprqtsdrlffldlkqgrylpldervharicagdfsl 646


RESULT 12
AAB83235
ID   AAB83235 standard; Protein; 646 AA.
XX
AC   AAB83235;
XX
DT   06-JUL-2001  (first entry)
XX
DE   Murine FATP1 SEQ ID NO: 33.
XX
KW   Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
KW   yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
KW   weight control; tuberculosis; TB; anti-fungal.
XX
OS   Mus musculus.
XX
PN   WO200121795-A2.
XX
PD   29-MAR-2001.
XX
PF   21-SEP-2000; 2000WO-US25891.
XX
PR   23-SEP-1999;   99US-0405504.
PR   23-SEP-1999;   99US-0405505.
PR   16-DEC-1999;   99US-0465280.
```

```
PR   17-FEB-2000; 2000US-0506252.
PR   06-JUL-2000; 2000US-0611197.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (MILL-) MILLENNIUM PHARM INC.
XX
PI   Stahl A,  Hirsch DJ,  Lodish HF,  Gimeno RE,  Tartaglia LA;
XX
DR   WPI; 2001-354783/37.
XX
PT   New fatty acid transport proteins (FATPs) useful for the manufacture of
PT   medicament for treating obesity, diabetes and heart disease -
XX
PS   Disclosure; Fig 32; 287pp; English.
XX
CC   The present invention provides the protein and coding sequences of fatty
CC   acid transport proteins (FATPs) from a number of species, including
CC   FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
CC   from the mouse, FATPa and b from C. elegans, and FATP from Aspergillus
CC   nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
CC   tuberculosis and Cochliobolus heterostrophus. The FATP from M.
CC   tuberculosis can be used to identify inhibitors which can then be used to
CC   treat TB. That from M. grisea (also known as rice blast fungus) can be
CC   used to develop anti-fungal agents capable of preventing infection of
CC   rice. Those from the human can be used to develop treatments for
CC   diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
CC   present sequence is one of the sequences described in the exemplification
CC   of the invention.
XX
SQ   Sequence   646 AA;

  Query Match             90.6%;  Score 3054;  DB 22;  Length 646;
  Best Local Similarity   89.5%;  Pred. No. 0;
  Matches  578;  Conservative   30;  Mismatches   38;  Indels    0;  Gaps    0;

Qy       1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
           ||||||| ||| |||||| |||||||||||  |||| |||||||||||||||||||||||
Db       1 mrapgagtasvaslallwflglpwtwsaaaafcvyvggggwrflrivcktarrdlfglsv 60

Qy      61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
           ||||||||||:||| ||| ||||| :|||||||||||| :| |||||||| |||||||||
Db      61 lirvrlelrrhrragdtipcifqavarrqperlalvdassgicwtfaqldtysnavanlf 120

Qy     121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEAALLNVNLRREPLAFCLGTSGAKALI 180
           ||||||||||:|||||||||||||||||: |||||||||||||||||| |||||
Db     121 rqlgfapgdvvavflegrpefvglwlglakagvvaallnvnlrreplafclgtsaakali 180

Qy     181 FGGEMVAAVAEVSGHLGKSLIKFCSGDLGPEGILPDTHLLDPLLKEASTAPLAQIPSKGM 240
           :|||| |||||||  |||||:|||||||||| ||||| ||||:| || | |||| | |||
Db     181 yggemaaavaevseqlgksllkfcsgdlgpesilpdtqlldpmlaeapttplaqapgkgm 240

Qy     241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
           |||||||||||||||||||||||||:|||||:| |:||||||||||||||||:|
Db     241 ddrlfyiytsgttglpkaaivvhsryyyriaafghhsysmraadvlydclplyhsagnimg 300

Qy     301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
           ||||:|||||||||||||||:|||||||||||||||:|||| |:||||||
Db     301 vgqcviygltvvlrkkfsasrfwddcvkynctvvqyigeicryllrqpvrdveqrhrvrl 360

Qy     361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
           |||||||||||||:|||| |||||||||||||||||||||||||||| ||||||
Db     361 avgnglrpaiweeftqrfgvpqigefygatecncsianmdgkvgscgfnsrilthvypir 420

Qy     421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
           |||||||||| |||::|||||||| ||||||||||||||||||||:|||:|||||||
Db     421 lvkvnedtmeplrdseglcipcqpgepgllvgqinqqdplrrfdgyvsdsatnkkiahsv 480

Qy     481 FSKGDSAYLSGDVLVMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLSRLLGQTDVAVY 540
           | |||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Db     481 frkgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvstteveavlsrllgqtdvavy 540

Qy     541 GVAVPGVEGKAGMAAVADPHSLLDPNAIYQELQKVLAPYARPIFLRLLPQVDTTGTFKIQ 600
```

```
           |||||||||||||||:||||| |||||::||||||||| ||||||||||||||||||||||
Db     541 gvavpgvegkagmaaiadphsqldpnsmyqelqkvlasyarpiflrllpqvdttgtfkiq 600

Qy     601 KTRLQREGFDPRQTSDRLFFLDLKQGHYLPLNEAVYTRICSGAFAL 646
           |||||||||||||||||||||||||||| |:||:| |: |||:| |:|
Db     601 ktrlqregfdprqtsdrlffldlkqgryvpldervharicagdfsl 646


RESULT  13
AAY14955
ID   AAY14955 standard; protein; 647 AA.
XX
AC   AAY14955;
XX
DT   26-OCT-1999  (first entry)
XX
DE   Amino acid sequence of murine mmFATP1.
XX
KW   Fatty acid transport protein; FATP; long chain fatty acid; LCFA; murine;
KW   fatty acid; FATP biosynthesis; obesity; diabetes; heart disease.
XX
OS   Mus sp.
XX
PN   WO9936537-A2.
XX
PD   22-JUL-1999.
XX
PF   14-JAN-1999;   99WO-US00182.
XX
PR   14-JAN-1999;   99US-0232201.
PR   15-JAN-1998;   98US-0071374.
PR   20-JUL-1998;   98US-0093491.
PR   04-DEC-1998;   98US-0110941.
PR   14-JAN-1999;   99US-0232195.
PR   14-JAN-1999;   99US-0232197.
PR   14-JAN-1999;   99US-0232200.
XX
PA   (MILL-) MILLENNIUM PHARM INC.
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
XX
PI   Gimeno RE,  Hirsch DJ,  Lodish HF,  Stahl A,  Tartaglia LA;
XX
DR   WPI; 1999-444398/37.
DR   N-PSDB; AAZ00365.
XX
PT   Fatty acid transport proteins and related polynucleotides, useful
PT   for treating obesity, diabetes and heart disease
XX
PS   Example 1; Fig 63; 255pp; English.
XX
CC   The invention provides a family of fatty acid transport proteins (FATPs)
CC   that mediate transport of long chain fatty acids (LCFAs) across cell
CC   membranes into cells. Human and murine FATP proteins and nucleic acids
CC   encoding the proteins are provided. The FATP proteins can be produced
CC   by standard recombinant methodology. Fatty acid uptake by cells can be
CC   modulated by modulating biosynthesis of FATP proteins especially FATP6.
CC   In particular, antisense oligonucleotides can be used to modulate FATP
CC   biosynthesis. Modulation of FATP6 is useful for inhibiting fatty acid
CC   uptake in cardiac muscle of humans. Agents can be directed to cardiac
CC   muscle or liver by administration of a complex of the agent and a FATP6
CC   binding moiety. DNA encoding FATP proteins can be used as a reference
CC   used in detecting variant alleles or homologues. Altering the LCFA uptake
CC   by administering an inhibitor or enhancer of FATP transport function in
CC   the small intestine can decrease or increase calories available as fats,
CC   and can decrease or increase circulating fatty acids. Blocking the
CC   function of FATP4 and also FATP2, is useful for treating obesity,
CC   diabetes and heart disease.
XX
SQ   Sequence   647 AA;

  Query Match             89.8%;  Score 3026.5;  DB 20;  Length 647;
  Best Local Similarity   89.0%;  Pred. No. 0;
```

```
  Matches  576;  Conservative   29;  Mismatches   41;  Indels    1;  Gaps    1;

Qy       1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
           ||||||| ||| |||||| |||||||||||  |||| ||||||||||||||||||||||||
Db       1 mrapgagtasvaslallwflglpwtwsaaaafcvyvggggwrflrivcktarrdlfglsv 60

Qy      61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
           |||||||||||:||| ||| ||||| :|||||||||| :| |||||||| |||||||||
Db      61 lirvrlelrrhrragdtipcifqavarrqperlalvdassgicwtfaqldtysnavanlf 120

Qy     121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEAALLNVNLRREPLAFCLGTSGAKALI 180
           ||||||||||||:|||||||||||||||||: |||||||||||||||||| |||||
Db     121 rqlgfapgdvvavflegrpefvglwlglakagvvaallnvnlrreplafclgtsaakali 180

Qy     181 FGGEMVAAVAEVSGHLGKSLIKFCSGDLGPEGILPDTHLLDPLLKEASTAPLAQIPSKGM 240
           :|||| |||||||  ||||||:|||||||||| ||||| ||||:| || | |||| | |||
Db     181 yggemaaavaevseqlgksllkfcsgdlgpesilpdtqlldpmlaeapttplaqapgkgm 240

Qy     241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
           ||||||||||||||||||||||||||||:||||||:| |:|||||||||||||||||:|
Db     241 ddrlfyiytsgttglpkaaivvhsryyriaafghhsysmraadvlydclplyhsagnimg 300

Qy     301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
           ||||:|||||||||||||||||||:|||||||  |||||||||:||||: |:|||||||
Db     301 vgqcviygltvvlrkkfsasrfwddcvkynctvvddigeicryllrqpvrdveqrhrvrl 360

Qy     361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
           |||||||||||||:|||| ||||||||||||||||||||||||||||||| ||||||
Db     361 avgnglrpaiweeftqrfgvpqigefygatecncsianmdgkvgscgfnsrilthvypir 420

Qy     421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
           |||||||||| |||::|||||||| ||||||||||||||||||||:|||:|||||||||
Db     421 lvkvnedtmeplrdseglcipcqpgepgllvgqinqqdplrrfdgyvsdsatnkkiahsv 480

Qy     481 FSKGDSAYLSGDVLVMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLSRLLGQTDVAVY 540
           | ||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Db     481 frkgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvstteveavlsrllgqtdvavy 540

Qy     541 GVAVPGVEGKAGMAAVADPHSLLDPNAIYQELQKVLAPYARPIFLRLLPQVDTTGTFKIQ 600
           |||||||||||||||:||||| ||||::|||||||| ||||||||||||||||||||||
Db     541 gvavpgvegkagmaaiadphsqldpnsmyqelqkvlasyarpiflrllpqvdttgtfkiq 600

Qy     601 KTRLQREGFDPRQTSDRLFFLDLKQG-HYLPLNEAVYTRICSGAFAL 646
           |||||||||||||||||||||| |  ||||:| |: |||:| |:|
Db     601 ktrlqregfdprqtsdrlffldlksgtrylpldervharicagdfsl 647


RESULT  14
AAB83255
ID   AAB83255 standard; Protein; 647 AA.
XX
AC   AAB83255;
XX
DT   06-JUL-2001  (first entry)
XX
DE   Murine FATP1 SEQ ID NO: 65.
XX
KW   Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
KW   yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
KW   weight control; tuberculosis; TB; anti-fungal.
XX
OS   Mus musculus.
XX
PN   WO200121795-A2.
XX
PD   29-MAR-2001.
XX
PF   21-SEP-2000; 2000WO-US25891.
XX
PR   23-SEP-1999;   99US-0405504.
PR   23-SEP-1999;   99US-0405505.
PR   16-DEC-1999;   99US-0465280.
PR   17-FEB-2000; 2000US-0506252.
PR   06-JUL-2000; 2000US-0611197.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (MILL-) MILLENNIUM PHARM INC.
XX
PI   Stahl A,  Hirsch DJ,  Lodish HF,  Gimeno RE,  Tartaglia LA;
XX
DR   WPI; 2001-354783/37.
DR   N-PSDB; AAF89027.
XX
PT   New fatty acid transport proteins (FATPs) useful for the manufacture of
PT   medicament for treating obesity, diabetes and heart disease -
XX
PS   Disclosure; Fig 63; 287pp; English.
XX
CC   The present invention provides the protein and coding sequences of fatty
CC   acid transport proteins (FATPs) from a number of species, including
CC   FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
CC   from the mouse, FATPa and b from C. elegans, and FATP from Aspergillus
CC   nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
CC   tuberculosis and Cochliobolus heterostrophus. The FATP from M.
CC   tuberculosis can be used to identify inhibitors which can then be used to
CC   treat TB. That from M. grisea (also known as rice blast fungus) can be
CC   used to develop anti-fungal agents capable of preventing infection of
CC   rice. Those from the human can be used to develop treatments for
CC   diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
CC   present sequence is one of the sequences described in the exemplification
CC   of the invention.
XX
SQ   Sequence   647 AA;


  Query Match             89.8%;  Score 3026.5;  DB 22;  Length 647;
  Best Local Similarity   89.0%;  Pred. No. 0;
  Matches  576;  Conservative   29;  Mismatches   41;  Indels    1;  Gaps    1;

Qy       1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
           ||||||| ||| |||||| |||||||||||  |||| ||||||||||||||||||||||||
Db       1 mrapgagtasvaslallwflglpwtwsaaaafcvyvggggwrflrivcktarrdlfglsv 60

Qy      61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
           |||||||||||:||| ||| ||||| :|||||||||| :| |||||||| |||||||||
Db      61 lirvrlelrrhrragdtipcifqavarrqperlalvdassgicwtfaqldtysnavanlf 120

Qy     121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEAALLNVNLRREPLAFCLGTSGAKALI 180
           ||||||||||||:|||||||||||||||||: |||||||||||||||||| |||||
Db     121 rqlgfapgdvvavflegrpefvglwlglakagvvaallnvnlrreplafclgtsaakali 180

Qy     181 FGGEMVAAVAEVSGHLGKSLIKFCSGDLGPEGILPDTHLLDPLLKEASTAPLAQIPSKGM 240
           :|||| |||||||  ||||||:|||||||||| ||||| ||||:| || | |||| | |||
Db     181 yggemaaavaevseqlgksllkfcsgdlgpesilpdtqlldpmlaeapttplaqapgkgm 240

Qy     241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
           ||||||||||||||||||||||||||||:||||||:| |:|||||||||||||||||:|
Db     241 ddrlfyiytsgttglpkaaivvhsryyriaafghhsysmraadvlydclplyhsagnimg 300

Qy     301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
           ||||:|||||||||||||||||||:|||||||  |||||||||:||||: |:|||||||
Db     301 vgqcviygltvvlrkkfsasrfwddcvkynctvvddigeicryllrqpvrdveqrhrvrl 360

Qy     361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
           |||||||||||||:|||| ||||||||||||||||||||||||||||||| ||||||
Db     361 avgnglrpaiweeftqrfgvpqigefygatecncsianmdgkvgscgfnsrilthvypir 420

Qy     421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
           |||||||||| |||::|||||||| ||||||||||||||||||||:|||:|||||||||
Db     421 lvkvnedtmeplrdseglcipcqpgepgllvgqinqqdplrrfdgyvsdsatnkkiahsv 480

Qy     481 FSKGDSAYLSGDVLVMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLSRLLGQTDVAVY 540
           | ||||||||||||||||||||||||||||||||||||||||||||| ||||||||||||||
Db     481 frkgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvstteveavlsrllgqtdvavy 540

Qy     541 GVAVPGVEGKAGMAAVADPHSLLDPNAIYQELQKVLAPYARPIFLRLLPQVDTTGTFKIQ 600
```

```
          ||||||||||||||||:||||| ||||::|||||||||| ||||||||||||||||||||||
Db    541 gvavpgvegkagmaaiadphsqldpnsmyqelqkvlasyarpiflrllpqvdttgtfkiq 600

Qy    601 KTRLQREGFDPRQTSDRLFFLDLKQG-HYLPLNEAVYTRICSGAFAL 646
          |||||||||||||||||||||||| |  ||||:| |: |||:| |:|
Db    601 ktrlqregfdprqtsdrlffldlksgtrylpldervharicagdfsl 647


RESULT 15
AAB83252
ID   AAB83252 standard; Protein; 630 AA.
XX
AC   AAB83252;
XX
DT   06-JUL-2001  (first entry)
XX
DE   Rat FATP1 SEQ ID NO: 59.
XX
KW   Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
KW   yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
KW   weight control; tuberculosis; TB; anti-fungal.
XX
OS   Rattus norvegicus.
XX
PN   WO200121795-A2.
XX
PD   29-MAR-2001.
XX
PF   21-SEP-2000; 2000WO-US25891.
XX
PR   23-SEP-1999;   99US-0405504.
PR   23-SEP-1999;   99US-0405505.
PR   16-DEC-1999;   99US-0465280.
PR   17-FEB-2000; 2000US-0506252.
PR   06-JUL-2000; 2000US-0611197.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (MILL-) MILLENNIUM PHARM INC.
XX
PI   Stahl A,  Hirsch DJ,  Lodish HF,  Gimeno RE,  Tartaglia LA;
XX
DR   WPI; 2001-354783/37.
DR   N-PSDB; AAF89024.
XX
PT   New fatty acid transport proteins (FATPs) useful for the manufacture of
PT   medicament for treating obesity, diabetes and heart disease -
XX
PS   Disclosure; Fig 57; 287pp; English.
XX
CC   The present invention provides the protein and coding sequences of fatty
CC   acid transport proteins (FATPs) from a number of species, including
CC   FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
CC   from the mouse, FATPa and b from C. elegans, and FATP from Aspergillus
CC   nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
CC   tuberculosis and Cochliobolus heterostrophus. The FATP from M.
CC   tuberculosis can be used to identify inhibitors which can then be used to
CC   treat TB. That from M. grisea (also known as rice blast fungus) can be
CC   used to develop anti-fungal agents capable of preventing infection of
CC   rice. Those from the human can be used to develop treatments for
CC   diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
CC   present sequence is one of the sequences described in the exemplification
CC   of the invention.
XX
SQ   Sequence   630 AA;


  Query Match             88.1%;  Score 2970;  DB 22;  Length 630;
  Best Local Similarity   87.2%;  Pred. No. 2.6e-299;
  Matches  563;  Conservative   30;  Mismatches   37;  Indels   16;  Gaps    1;

Qy      1 MRAPGAGAASVVSLALLWLLGLPWTWSAAAALGVYVGSGGWRFLRIVCKTARRDLFGLSV 60
          || |||| ||| || ||||||||||||||| ||||||||||||||||||||||||||||
Db      1 mrtpgagtasvaslgllwllglpwtwsaaaafgvyvgsggwrflrivcktarrdlfglsv 60

Qy     61 LIRVRLELRRHQRAGHTIPRIFQAVVQRQPERLALVDAGTGECWTFAQLDAYSNAVANLF 120
          |||||||||:||| ||||||||| |||||||||||| :| |||||||| |||||||||
Db     61 lirvrlelrrhrragdtiprifqavaqrqperlalvdassgicwtfaqldtysnavanlf 120

Qy    121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEAALLNVNLRREPLAFCLGTSGAKALI 180
          |||||||||:|||||||||||||||||: |||||||||||||||||| |||||
Db    121 lqlgfapgdvvavflegrpefvglwlglakagvvaallnvnlrreplafclgtsaakali 180

Qy    181 FGGEMVAAVAEVSGHLGKSLIKFCSGDLGPEGILPDTHLLDPLLKEASTAPLAQIPSKGM 240
          :|||| ||||||| |||||:|||||||||| :|||| |||||:| || | |||| | |||
Db    181 yggemaaavaevseqlgksllkfcsgdlgpesvlpdtqlldpmlaeapttplaqapgkgm 240

Qy    241 DDRLFYIYTSGTTGLPKAAIVVHSRYYRMAAFGHHAYRMQAADVLYDCLPLYHSAGNIIG 300
          |||||||||||||||||||||||||||:||||||:| |:| ||||||||||||||||:|
Db    241 ddrlfyiytsgttglpkaaivvhsryyriaafghhsysmrandvlydclplyhsagnimg 300

Qy    301 VGQCLIYGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGEICRYLLKQPVREAERRHRVRL 360
          ||||:||||||||||||||||||||:|||||||||||||||||:||||: ||||||||
Db    301 vgqciiygltvvlrkkfsasrfwddcvkynctvvqyigeicryllrqpvrdverrhrvrl 360

Qy    361 AVGNGLRPAIWEEFTERFGVRQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVYPIR 420
          |||||||||||||||: |||||||||||||||||||||||||||||||||||||| ||||||
Db    361 avgnglrpaiweeftqgfgvrqigefygatecncsianmdgkvgscgfnsrilthvypir 420

Qy    421 LVKVNEDTMELLRDAQGLCIPCQAGEPGLLVGQINQQDPLRRFDGYVSESATSKKIAHSV 480
          |||||||||| |||:|||||||| ||||||||||||||||||||||||||:|||:|||||||
Db    421 lvkvnedtmeplrdsqglcipcqpgepgllvgqinqqdplrrfdgyvsdsatnkkiahsv 480

Qy    481 FSKGDSAYLSGDVLVMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLSRLLGQTDVAVY 540
                                 |||||||||||||||||||||||||||| ||||||||||||||
Db    481 ----------------delgymyfrdrsgdtfrwrgenvstteveavlsrllgqtdvavy 524

Qy    541 GVAVPGVEGKAGMAAVADPHSLLDPNAIYQELQKVLAPYARPIFLRLLPQVDTTGTFKIQ 600
          ||||||||||:||||:|||||: ||||::|||||||||| ||:||||||||||||||||||
Db    525 gvavpgvegksgmaaiadphnqldpnsmyqelqkvlasyaqpiflrllpqvdttgtfkiq 584

Qy    601 KTRLQREGFDPRQTSDRLFFLDLKQGHYLPLNEAVYTRICSGAFAL 646
          |||||||||||||||||||||||| ||||:| |: |||:| |:|
Db    585 ktrlqregfdprqtsdrlffldlkqgrylpldervharicagdfsl 630


Search completed: March  6, 2002, 13:38:27
Job time: 208 sec
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